

**INFORMATION DISCLOSURE CITATION**  
(Use several sheets if necessary)

Docket Number (Optional)  
02560035BA

Application Number  
not assigned 101776505

Applicant(s)  
T. Rappaport, et al.

Filing Date  
concurrently

Group Art Unit  
not assigned 2163

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
HRR	1	4,675,147	6-23-87	Schaefer et al.			4-6-83
	2	4,736,453	4-5-88	Schloemer			12-10-85
	3	4,885,694	12-5-89	Pray et al.			4-29-87
	4	5,111,392	5-5-92	Malin			6-9-89
	5	5,119,307	6-2-92	Blaha et al.			12-22-89
	6	5,239,487	8-24-93	Horejsi et al.			10-24-90
	7	5,293,640	3-8-94	Gunnar et al.			
	8	5,307,261	4-26-94	Maki et al.			6-28-91
	9	5,337,149	8-9-94	Kozah et al.			11-12-92
	10	5,339,184	8-16-94	Tang			6-15-92
HRR	11	5,375,123	12-20-94	Andersson et al.			2-5-93

**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

Holmes R

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5/7/2007

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**INFORMATION DISCLOSURE CITATION**  
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Docket Number (Optional) 02560035BA	Application Number not assigned 10/T76,505
Applicant(s) T. Rappaport, et al.	
Filing Date concurrently	Group Art Unit not assigned 2163

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
HKR	12	5,394,522	2-28-95	Sanchez-Frank et al.			9-13-93
	13	5,450,615	9-12-95	Fortune et al.			12-22-93
	14	5,458,123	10-17-95	Unger			4-29-94
	15	5,465,390	11-7-95	Cohen			2-12-93
	16	5,482,050	1-9-96	Smokoff et al.			2-17-94
	17	5,485,568	1-16-96	Venable et al.			10-8-93
	18	5,491,644	2-13-96	Pickering et al.			9-7-93
	19	5,491,837	2-13-96	Haartsen			3-7-94
	20	5,493,679	2-20-96	Virgil et al.			10-29-93
	21	5,515,269	5-7-96	Willis et al.			11-8-93
HKR	22	5,528,518	6-18-96	Bradshaw et al.			10-25-94

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Applicant(s)  
T. Rappaport, et al.

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**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
HRR	23	5,539,665	7-23-96	Lamming et al.			7-25-94
	24	5,553,312	9-3-96	Gatley et al.			6-20-94
	25	5,553,620	9-10-96	Snider et al.			5-2-95
	26	5,555,354	9-10-96	Strasnick et al.			3-23-93
	27	5,561,841	10-1-96	Markus			
	28	5,564,070	10-8-96	Want et al.			7-30-93
	29	5,594,946	1-14-97	Menich et al.			2-28-95
	30	5,598,532	1-28-97	Liron			10-21-93
	31	5,625,827	4-29-97	Kranse et al.			12-23-94
	32	5,636,344	6-3-97	Lewis			8-22-91
HRR	33	5,689,355	11-18-97	Okubo et al.			7-1-96

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**INFORMATION DISCLOSURE CITATION**  
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Docket Number (Optional)  
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Applicant(s)  
T. Rappaport, et al.

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**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
HR2	34	5,761,093	6-2-98	Urbish et al.			5-8-97
	35	5,794,128	8-11-98	Brockel et al.			9-20-95
	36	5,799,154	8-25-98	Kuriyan			6-27-96
	37	5,809,282	8-15-98	Cooper et al			6-7-95
	38	5,815,395	9-29-98	Hart et al.			6-29-95
	39	5,828,960	10-27-98	Tang et al.			3-31-95
	40	5,831,610	11-3-98	Tonelli et al.			2-23-96
	41	5,832,389	11-3-98	Dent			4-3-96
	42	5,861,887	1-19-99	Butler et al.			12-5-95
V	43	5,867,112	2-2-99	Kost			5-14-91
HR2	44	5,877,777	3-2-99	Colwell			4-7-97

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10/7/96, 585

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T. Rappaport, et al.

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2/63

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
HRP	45	5,878,328	3-2-99	Chawla et al.			12-21-95
	46	5,907,850	5-25-99	Krause et al.			1-21-97
	47	5,917,808	6-29-99	Kosbab			1-17-97
	48	5,923,850	7-13-99	Barroux			6-28-96
	49	5,926,762	7-20-99	Arpee et al.			5-17-96
	50	5,940,196	8-17-99	Piehler et al.			5-16-97
	51	5,945,976	8-31-99	Iwamura et al.			12-10-96
	52	5,948,055	9-7-99	Pulsipher et al.			8-29-96
	53	5,949,335	9-7-99	Maynard			4-14-98
✓	54	5,949,988	9-7-99	Feisullin et al.			4-3-97
HRP	55	5,953,669	9-14-99	Stratis et al.			12-11-97

## FOREIGN PATENT DOCUMENTS

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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


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Applicant(s)  
T. Rappaport, et al.

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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
HRZ	56	5,963,867	10-5-99	Reynolds et al.			8-16-95
	57	5,970,406	10-19-99	Komara			12-31-96
	58	5,987,328	11-16-99	Ephremides et al.			4-24-97
	59	6,006,021	12-21-99	Tognazzini			7-1-96
	60	6,018,625	1-25-00	Hayhall et al.			8-27-97
	61	6,021,316	2-1-00	Heiska et al.			
	62	6,032,105	2-29-00	Lee et al.			7-31-97
	63	6,038,547	3-14-00	Casto			1-7-98
	64	6,044,273	3-28-00	Tekinay			12-10-96
	65	6,058,102	5-2-00	Drysdale et al.			11-6-98
HRZ	66	6,058,262	5-2-00	Kawas et al.			4-18-97

## FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER Helene RZ DATE CONSIDERED 5/17/2007

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Docket Number (Original)  
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T. Rappaport, et al.

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**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
HR	67	6,059,842	5-9-00	Dumarot et al.			4-14-98
	68	6,061,722	5-9-00	Lipa et al.			12-23-96
	69	6,075,541	6-13-00	Maclinovsky			11-7-97
	70	6,088,522	7-11-00	Lee et al.			7-31-97
	71	6,104,699	8-15-00	Holender et al.			
	72	6,108,309	8-22-00	Cohoe et al.			12-8-97
	73	6,111,857	8-29-00	Soliman et al.			9-11-97
	74	6,122,083	9-19-00	Ohta et al.			10-3-94
	75	6,148,010	11-14-00	Sutton et al.			6-24-98
	76	6,199,032	3-6-01	Anderson			7-22-98
HR	77	6,204,813	3-20-01	Wadell et al.			2-20-98

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**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PR	78	6,208,833	3-27-01	Preschutti et al.			6-24-97
	79	6,229,540	5-8-01	Tonelli et al.			10-13-98
	80	6,253,086	6-26-01	Parantainen et al.			3-25-99
	81	6,285,377	9-4-01	Greenbaum et al.			6-26-97
	82	6,289,203	9-11-01	Smith et al.			2-25-98
	83	6,317,599	11-13-01	Rappaport et al.			5-26-99
	84	6,326,987	12-4-01	Alexander			12-19-00
	85	6,330,005	12-11-01	Tonelli et al.			10-6-99
	86	6,311,144	10-30-01	Abu El Ata			7-31-98
	87	6,337,688	1-8-02	Berstis			1-29-99
PR	88	6,338,031	1-8-02	Lec et al.			9-23-99

**FOREIGN PATENT DOCUMENTS**

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							YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

HelenefR

DATE CONSIDERED

5/2/2007

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## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
HRZ	89	6,356,758	3-12-02	Almeida et al.			12-31-97
	90	6,393,432	5-21-02	Flansburg et al.			6-2-99
	91	6,408,312	6-18-02	Forthman et al.			8-30-99
	92	6,442,507	8-27-02	Skidmore et al.			12-29-98
	93	6,470,195	10-22-02	Meyer			10-31-00
	94	6,487,417	11-26-02	Rossoni et al.			11-24-99
	95	6,493,679	12-10-02	Rappaport et al.			5-26-99
	96	6,496,290	12-17-02	Lee			12-17-98
	97	6,499,006	12-24-02	Rappaport et al.			7-14-99
✓	98	6,505,045	1-7-03	Hills et al.			4-10-00
HRZ	99	5,586,254	12-17-96	Kondo			

## FOREIGN PATENT DOCUMENTS

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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


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**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
HR2	100	6,085,335	7-4-00	Djoko et al.			12-31-97
	101	5,710,758	1-20-98	Soliman et al.			9-29-95
	102	5,821,937	10-13-98	Tonelli et al.			8-12-96
	103	5,774,669	6-30-98	George et al.			7-28-95
	104	5,802,146	9-1-98	Dulman			11-22-95
	105	5,825,759	10-20-98	Liu			7-24-95
	106	5,845,124	12-1-98	Berman			5-1-96
	109	6,199,032	3-6-01	Anderson			7-22-98
	110	5,467,441	11-14-95	Stone et al.			10-6-94
	111	6,243,772	6-5-01	Ghori et al.			1-31-97
HR2	112	5,994,984	11-30-99	Stancil et al.			5-29-98

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REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
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EXAMINER

Helene R2

DATE CONSIDERED

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Application Number  
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Applicant(s)  
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Group Art Unit  
not assigned 2163

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
RP	113	5,977,851	11-2-99	Stancil et al.			11-13-97
RP	114	5,755,072	5-26-98	Lingafelter			5-13-98

**FOREIGN PATENT DOCUMENTS**

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							YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

		From Bird's Eye Real-time Mapping Software dated 6-30-02
		IEEE Transactions on Antennas and propagation, Vol 46, No. 8, August 1998, "Effect of Terrain on Path Loss in Urban Environments for Wireless Applications" Leonard Piazzi and Henry L. Bertoni

EXAMINER *Helene R2* DATE CONSIDERED *5/7/2007*

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HAS NOT BEEN CONSIDERED BY THE EXAMINER (SEE OFFICE ACTION)

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T. Rappaport, et al.

Filing Date

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EXAMINER

INITIAL

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2 G. Durgin, T.S. Rappaport, H. Xu, "Measurements and Models for Radio Path Loss and Penetration Loss in and Around Homes and Trees at 5.85 GHz," IEEE Transactions on Communications, vol. 46, no. 11, November 1998.

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8 M. Panjwani et al., "Interactive Computation of Coverage Regions for Wireless Communication in Multifloored Indoor Environments," IEEE Journal on Selected Areas in Communications, Vol. 14, No. 3, April 1996.

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Group Art Unit

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2163

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S. Seidel et al., "Site-Specific Propagation Prediction for Wireless In-Building Personal Communication Design," IEEE Transactions on Vehicular Technology, Vol. 43, No. 4, November 1994.

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Master's Thesis - unpublished by Virginia Tech for 2 years after submission.

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EXAMINER  
INITIAL

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Company Web Page "Actix" www.actix.com product name: E-NOS ( n w E-AMS)

Company Web Page " Agilent" www.agilent.com product name: OPAS32

Company Web Page " Agilent " www.agilent.com product name: Wizard

Company Web Page " Comarco" www.edx.com product name: SignalPro

Company Web Page " ComOpt" www.comopt.com. product name: CellOpt AFP

Company Web Page " Lucent" www.bell-labs.com product name: WiSE

Company Web Page " Ericsson" www.ericsson.com product name: TEMS Lite

Company Web Page " Ericsson" www.ericsson.com product name: TEMS

Company Web Page " Marconi" www.marconi.com product name: PlaNET

Company Web Page " Marconi" www.marconi.com product name: decibelPlanner

Company Web Page " Schema"www.schema.com product name: Optimizer

Company Web Page " ScoreBoard" www.scoreboard.com product name: ScoreBoard

EXAMINER

DATE CONSIDERED

5/7/2007

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Pocket Number (Optional):  
102560035BA

Application Number  
not assigned 107161005

Applicant(s)  
T. Rappaport, et al.

Filing Date  
concurrently

Group Art Unit  
not assigned 2163

THIS NOT BEEN CONSIDERED - SEE OA

EXAMINER INITIAL	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
24	R. Skidmore, et al., Russell Senate Office Building Propagation Study, Project Report for Joseph R. Loring & Associates; "Project Update," AoC Contract # Acbr96088, prepared for Office of the Architect of the Capitol, January 19, 1997.
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26	R. Torres et al., "CINDOOR: An Engineering Tool for Planning and Design of Wireless Systems in Enclosed Spaces," IEEE Antennas and Propagation Magazine, Vol. 41, No. 4 August 1999.
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	T.S. Rappaport et al., "Radio Propagation Prediction Techniques and Computer-Aided Channel Modeling for Embedded Wireless Microsystems," MPRG Tech. Report MPRG-TR-95-08, Virginia Tech, July 1995.
	1. Article titled: "Building Database Manipulator" Copyright January 1998 by MPRG and Virginia Tech
	2. PCS' 97 Track 7: Engineering & Systems Management by Ted Rappaport and James S. Tucker
	3. Propagator Volume 8 No. 3 Summer 1997
	4. SMT Plus 1.0 User's Manual by Roger Skidmore and Ted Rappaport, Copyright August 1996 by Virginia Tech
	Software by Andrew titled "RF Planner" dated 6-17-97
	2. A user guide titled "Andrew Microwave System Planner" dated 7-99
	3. A user guide titled "Andrew Antenna System Planner" dated 6-99

EXAMINER

*Helene P2*

DATE CONSIDERED

*5/7/07*

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# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Docket Number (Optional)

02560035BA

Application Number

not assigned

07761505

Applicant(s)

T. Rappaport, et al.

Filing Date

concurrently

Group Art Unit

not assigned

2163

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*EXAMINER INITIAL	REP	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
HR		US-5,761,674	06-1998	Ito, Kenji	707/104.1
		US-6,509,906	01-2003	Awe et al.	345/619
		US-6,236,409	05-2001	Hartman, Linda Marie	345/629
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## FOREIGN PATENT DOCUMENTS

	REP	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER	DATE CONSIDERED
Heller	5/7/2007

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**INFORMATION DISCLOSURE CITATION**  
(Use several sheets if necessary)

Docket Number (Optional) 02560035BA	Application Number not assigned 10/776,125
Applicant(s) T. Rappaport, et al.	
Filing Date concurrently	Group Art Unit not assigned 2163

**U.S. PATENT DOCUMENTS**

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	A	US-5,625,827	04-1997	Krause et al.	345/964
	B	US-5,485,568	01-1996	Venable et al.	345/589
	C	US-5,907,850	05-1999	Krause et al.	345/854
	D	US-5,493,679	02-1996	Virgil et al.	706/919
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	F	US-4,885,694	12-1989	Pray et al.	345/636
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**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER Adlene R2	DATE CONSIDERED 5/7/2007
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